LARGE DATABASE SEARCH USING CAM AND HASH

ABSTRACT

5   A hash-CAM (H-CAM) which may work with a controller and a memory containing a database of either search values and associate content or associate content by itself. The H-CAM includes at least one set of paired hash units and CAM units and at least one logic unit. The CAM units hold values known to cause hash collisions in the respectively paired hash units, and the logic unit prioritizes the hash and CAM unit outputs to a single address value usable to

10   access the memory and obtain a search result at the controller that is not the result of a hash collision. The H-CAM may optionally include a search data storage to store the search values, so that they need not be stored in the memory, and a comparator to determine and handle newly determined hash collisions.